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2 Abstract

3 An adaptive signal processing system utilizes a pseudo-median cascaded canceller
4 to compute a set of complex adaptive weights and generate a filtered output signal. The
5 system includes a plurality of building blocks arranged in a Gram-Schmidt cascaded
6 canceller-type configuration for sequentially decorrelating input signals from each other to
7 thereby yield a single filtered output signal. Each building block includes a local main
8 input channel which receives a local main input signal, a local auxiliary input channel
9 which receives a local auxiliary input signal, and a local output channel which sends a
10 local filtered output signal. Each building block generates a complex adaptive weight
11 which is the sample median value of the real and imaginary parts of the ratio of local main
12 input weight training data to local auxiliary input weight training data, and each building
13 block generates a local output signal utilizing the complex adaptive weight. The effect of
14 non-Gaussian noise contamination on the convergence MOE of the system is negligible.
15 In addition, when desired signal components are included in weight training data they
16 cause little loss of noise cancellation.